# Foreword

Today there are over two billion mobile phones in use. Add this vast number to the growing portfolio of mobile devices—from music and video players to portable and wearable medical and health monitors, from tiny tags to intelligent garments—and its easy to appreciate the importance and timeliness of a book on effective interface design and evaluation.

Poor interface design of these devices is at best a cause of frustration—*how do I zoom out so I can view that web page?*—at worse, life-threatening—*did the nurse enter that drug dosage correctly in my portable medical pump?* Meanwhile, with many billions of interactions occurring daily with mobiles, great design can transform the world for good: simply reducing the number of key presses by one or two on a popular service could save a lifetime of human effort. While good design benefits all of us, for users with physical and cognitive impairments, as chapters in this book illustrate, the potential positive impact is huge. The Handbook is an important tool to help us all as we strive for even better mobile interactions in the future.

There are, of course, many other books on human-computer interaction design and evaluation. Should you read this one? Answer: absolutely. Other texts can help you understand broad issues and approaches but mobiles are very different from desktop-bound conventional computers. Consider traditional HCI as being a visit to a metropolitan zoo; in contrast, mobile HCI is like doing an adventurous animal safari, deep in the bush.

Take just two aspects: contexts and tasks. Mobiles are used in highly dynamic and demanding environments: people want to look up directions while walking; check flight changes while encumbered with luggage, children and jet-lag; tell each other stories in cafes using photos and video stored on their gadget. The office where this is written is a much more predictable, calmer context! Then, while a lot of HCI research has tackled work-based systems and tasks, mobiles are forcing the community to tackle other user 'goals' like fun, curiosity, and connecting.

The book comprehensively probes the unique problems and opportunities facing mobile designers and researchers, giving a much richer picture than the other general HCI volumes. You will learn not only of technologies and designs but, importantly, of methods and tools you can use when you are engaged in building your own systems.

The mobile research and practice community has grown considerably over the past 10 years and the full spectrum of approach and focus is represented in the book. So, there are chapters concerned with ethnographic methods and accounts of mobile use; and, others which detail engineering innovations and experimentation. You'll be able to learn about the state-of-the-art in interface and interaction technologies, from touch-based devices to RFID tagging; and be challenged by articles touching on issues like privacy, swarm intelligence, and technology acceptance models.

Whatever your area of mobile interest, you should be able to find material here that will inspire and inform design and evaluation processes. If you are a researcher, perhaps starting out on a particular topic such as mobile text entry, the book will provide you with good reviews of existing approaches and

pointers to future challenges. If you are one of the many new developers working on designing mobile devices and services, the book also contains practical guidelines and case-study experience reports to help you make good choices. The book is not just for technologists, though: marketing and business strategists will be interested in the consumer and social analyses.

Mobiles are changing the world. People like you—researchers and developers—have an incredible opportunity to shape the future. This book will be a resource you should return to again and again to check and challenge your methods, tools, and approaches so that this future is enriched and not impoverished.

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